WAKE REDUCTION STRUCTURE FOR ENHANCING CAVITY FLOW IN GENERATOR ROTOR ENDWINDINGS

ABSTRACT OF THE DISCLOSURE

A gas cooled dynamoelectric machine is provided that is comprised of a rotor, a rotor winding comprising axially extending coils and concentric endwindings, and a plurality of spaceblocks located between adjacent endwindings thereby to define a plurality of cavities, each bounded by adjacent spaceblocks and adjacent endwindings. To enhance the heat transfer rate from the copper end turns of the field endwinding region, at least one spaceblock has a trailing edge or downstream wall contoured to reduce generated wake. In a preferred embodiment, the trailing edge has an aerodynamic contour to reduce the extent and strength of the generated wake.